

Virginia Energy Plan
Agency Energy Management Activity Report
Fiscal Year 2008

Agency Department of Environmental Quality, Agency 440

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Part I. Core Strategies

Strategy 1.2.1

DEQ's Environmental Management System, which includes the Environmental Policy Statement, EMS Manual, and EMS Implementation Plan, can be viewed at: <http://deqnet/programs/ems>

Strategy 1.2.5

List of energy efficient purchases by DEQ for FY 2008

- X During FY 2008, DEQ purchased \$547,734 of energy efficient products, recycled products, and services, an increase of \$287,639 mainly due to the increase rental cost for copiers and scanners. This also includes the rental of energy star computers and copy machines.

Strategy 1.3.1

Employee Transportation Coordinator Jay M. Gutshall

List Transportation Demand Activities undertaken over the past year.

- X DEQ's miles traveled in fiscal year 2008 in state vehicles decreased by 122,650 miles from fiscal year 2007. Miles traveled in FY 2007 were 2,583,012. Miles traveled in FY 2008 were 2,460,362. It is estimated that this saved over 6,000 gallons of gasoline at a cost savings to the Agency of \$ 17,780.

Strategy 1.3.2

DEQ participates in the GRTC and the Van Pooling program.

- X GRTC Participants 55 employees—Subsidized 100% by DEQ

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|---|--|---|
| X | Van Pooling Participants | 12 employees—Subsidized up to \$115 per month per employee |
| X | Virginia Rail Express | 3 employees - Subsidizes up to \$115 per month per employee |
| X | Participation has increased by eight employees – this increase potentially saved 2,400 gallons of gasoline and \$ 8,400 for staff. | |

Strategy 1.3.4

DEQ uses audio teleconferences as an alternative to weekly or monthly meetings. This decreases associated travel costs and time, as well as allows for more people to be included in the decision making. In addition, in FY08 DEQ used videoconferencing as a means to provide short training programs or disseminate information to the entire agency. Since videoconferencing allows for an interactive format, employees are able to ask questions and obtain guidance without leaving their office building.

Strategy 1.3.6

DEQ does offer staggered work schedules, and 219 employees out of approximately 864 employees participate in the program. This is a decrease of 10 employees from FY 2007. Eighty three employees telecommute, an increase of 25 employees from FY 2007. It is estimated that telecommuting saved 5,778 gallons of gasoline and \$ 20,224.

Part II. Other Agency Activities

DEQ has energy management coordinators in all 7 regional offices, the 2 satellite offices, and on all 13 floors of our central office. The coordinators constantly remind employees to turn off all office equipment and lights at the end of the work. They send out reminders to conserve water, recycle paper products, make two sided copies, and provide information with regards to energy conservation and recycled products available to the Commonwealth.

On going projects relating to pollution prevention are supported by DEQ's Office of Pollution Prevention and the Agency's Environmental Management System (EMS) programs. Visit the DEQ website at www.deq.virginia.gov for information on these specific program activities.

Facilities – Environmental Initiatives

Central Office – 629 East Main Street, Richmond

- 1) Central Office has a long-term paper recycling contract with a local vendor to collect all of the agency's waste office paper. For FY 2008, over 14,000 pounds of paper was collected

for recycling. Plastic drink bottles are now also collected by this vendor for recycling. This add-on project was initiated in June 2008.

- 2) The Employees Association (EA) provides recycling for the aluminum beverage cans in the office, and in FY 2008 collected approximately 270 pounds of aluminum cans. The EA has also promoted the collection of cell phones, rechargeable batteries, ink jet cartridges through vendor mail-back programs.
- 3) Batteries such as cell phone batteries and miscellaneous rechargeable batteries are collected at Central Office for recycling. Employees can bring their batteries from home and place in the bin. This project was initiated in April of 2007.
- 4) DEQ collects CFL desk bulbs from our agency and employees may bring their CFL bulbs from home. The bulbs are picked up by a company for proper disposal. This project was initiated at the end of FY 2007.
- 5) Central Office guidelines encourage double-side copying and printing, with most printers capable of duplexing.
- 6) DEQ has established energy conservation guidelines for all offices, with emphasis on computer and facility lighting systems. A 2008 survey of personal electrical equipment usage in all offices was undertaken in order to develop standards/guidance in this area.
- 7) DEQ continues to work with the landlord on energy conservation and environmental strategies for the building.

Pollution Prevention Activities for FY 08

Virginia Department of Environmental Quality Renewable and Energy Efficiency Efforts

The Department of Environmental Quality (DEQ) is promoting awareness of renewable energy and energy efficiency by participating in various statewide educational outreach efforts. In FY 2008 DEQ provided support and participated in Try Transit Day; UVA Energy Day, the Association of Energy Conservation Professionals Annual Exposition, and several Earth Day events. Other outreach efforts include on site energy audits to interested VA facilities and promoting pertinent energy projects to facilities participating in the Virginia Environmental Excellence Program (VEEP). DEQ is also a stakeholder in organizations like the Virginia Wind Energy Collaborative and Hampton Roads Clean Cities, promoting wind energy and bio-fuels respectively. The Office of Pollution Prevention (OPP) at DEQ maintains a comprehensive,

internet based, educational resource addressing energy efficiency and renewable energy called the Virginia Information Source for Energy (VISE) www.deq.state.va.us/p2/vise/homepage.html. OPP also administrates the Virginia Environmental Excellence Program (VEEP). VEEP is a program that provides industry and municipalities the opportunity to be recognized for their environmental management systems and energy conservation efforts.

OPP is helping to integrate energy conservation into DEQ's environmental management system and meet the requirements of Executive Order 48 'Energy Efficiency in State Government'

P4111 Energy Activities July 1, 2007 – June 30, 2008

July 2007

- Provided input on the integration of EO48 into DEQ's EMS
- Responded to external questions about energy conservation and renewable energy.

August 2007

- Maintained the VISE website
- Promoted energy conservation and renewable energy through the Virginia Environmental Excellence Program.

September 2007

- New exhibit for (Virginia Information Source for Energy) VISE program
- GRTC's 'Try Transit Day'
- Hampton Roads Clean Cities Biodiesel Fuel Quality Seminar
- New fact sheet on CFLs – Clean up and Disposal Instructions for use on DEQ website, DMME website, and distribution at VA State Fair
- VREMS Energy Subgroup meeting

October 2007

- Energy audits of DEQ facilities – Central Office and PRO
- DEQ booth at State Fair distributing CFLs, CFL fact sheets, and answering questions about CFLs
- UVA's "Energy Day" – presented information about the VISE program, VEEP program, distributed CFLs and CFL fact sheets
- Energy Virginia Conference at the Virginia Military Institute.

November 2007

- Planned "Coastal Energy" session for the VA CZM Partners workshop
- VISE display at the annual Association of Energy Conservation Professionals Expo at the Roanoke Civic Center. Nearly 70 vendors agencies and NGO's

participated in the event, and the final attendance count was over 2000 people.

December 2007

- Planned and moderated session at VA CZM Partner's Workshop: "Alternative Energy Options Affecting Coastal Resources."
- Answered biodiesel questions and questions on converting vehicles to alternative fuel

January 2008

- Planning committee on 2008 Commonwealth of Virginia Energy and Sustainability Conference (COVES)
- Answered various renewable energy and energy efficiency questions.
- Updated VISE page

February 2008

- Planning committee for the Eastern Virginia Energy Conservation Conference
- Planning committee for 2008 Commonwealth of Virginia Energy and Sustainability Conference (COVES)
- VREMS energy workgroup meeting and workgroup conference calls

March 2008

- Meeting between DEQ and Dept. of Mines, Minerals, and Energy (DMME) to discuss the roles of each agency in promoting energy efficiency and renewable energy
- Met with DMME staff to discuss collaboration on energy efficiency outreach activities
- VREMS subcommittee to develop a "clearinghouse" of energy information for members
- Planning committee for COVES 2008
- Reformatted VISE website
- Revised CFL fact sheet with new disposal instructions

April 2008

- Distributed CFLs, fact sheets, and Energy Saver Handbook at Ft. Lee Earth Day
- Distributed CFLs, fact sheets, and Energy Saver Handbook at VCU Earth Day
- Distributed CFLs, fact sheets, and Energy Saver Handbook at Defense Supply Center Richmond Earth Day
- VREMS energy workgroup meeting and workgroup conference calls
- Answered energy related questions on solar power, micro hydro, and geothermal

May 2008

- Westover Hills Association meeting to distribute CFLs and answer questions

about safety and disposal issues

- Answered questions related to wind energy permitting, energy efficiency tax incentives, biodiesel production, and energy audits

June 2008

- Updated VISE website information on biodiesel and wind power
- Developed spreadsheet for calculating GHG emissions from energy use for VREMS group. Spreadsheet uses same factors as DEQ used for EO 48 calculations for state agencies
- Answered energy related questions on solar power and micro hydro

Tidewater Regional Office – Virginia Beach

1) Recycling: Materials and amounts being recycled in TRO:

- a) 9,320 lbs of paper, plastic bottles, tin, glass and cardboard
- b) batteries (consumer) - 18 pounds
- c) aluminum – 156 pounds

2) Waste Minimization

- a) Staff are encouraged to make double sided copying and printing and many staff are recycling paper by making it into note pads for use in the office.
- b) The office as a whole is relying more heavily on digital media and using the networked scanner/copier/printers to scan items and send via email vs. paper copy.
- c) Use of the Fax2Mail system which is internet based vs. paper based.
- d) Staff with personal printers are encouraged to use pre-printed paper for their informal printing.
- e) Use of digital photography in the office. Staff store photos on CD's and print pictures only when needed.
- f) TRO still cleans up Greenwich Road on a regular basis.

2) Energy Conservation

- a) The office completed an audit of power load from equipment plugged in and not in use and have accommodated the office with surge/power extensions that employees are encouraged to switch off when leaving the office.
- b) The office is continuing to recommend the landlord use green-tip light bulbs when replacing lighting in the office, and encouraging individual use of fluorescent vs.

- incandescent bulbs in office lamps.
- c) Programmable thermostats (12 of them in the office) are set to conserve the use of the HVAC system at night and on the weekends.
- d) For the 12 month period from September 2007 thru August 2008 TRO used 406,464 Kwh of electricity. This is a 4.4% drop from the same time frame in 2006/2007.

The following is information on vehicle usage at TRO in the last year. TRO reduced the use of gas and emissions by reducing our fleet and driving more economically and efficiently.

	FY 2007 Miles Driven	FY 2008 miles Driven	Results
Agency	94,823	87,426	7,397 less
Pool	99,713	81,948	17,765 less
Combined	194,536	169,374	25,162 less

TRO reduced their fleet by one agency owned vehicle from FY 07 to FY 08
TRO reduced their miles driven by 25,162 from FY 07 to FY 08
Currently have 11 agency owned vehicles and 8 pool vehicles
25,162 miles/21 mpg x \$2.94 avg cost per gallon = \$3,522.71
Saved approximately 1,198 gallons of fuel and saved approximately \$3,522 on average
from FY 07 to FY 08

- 4) Water Conservation
 - a) As we are in a leased facility, we are taking the following measures with our landlord's cooperation:
 - Employees notify the Office Manager of leaks in the sinks and outside faucets immediately in order to get them fixed in a timely manner.
 - During drought conditions, the landlord has dealt with water conservation in a very cooperative manner by not watering as often and doing so in the early morning hours with well water and a programmable timer.
 - The office paid property management to replace all aerators in the office with low flow adaptors.

South Central Regional Office – Lynchburg

Recycling

Copy/Mixed Paper: (17) 18 gal plastic tubs; (12) 10 gal plastic tubs
Shredded Paper: (6) 30 gal bags
Newspaper: (4) 18 gal plastic tubs
Cans: Aluminum = (0) 15 gal bags

Steel = (0) 15 gal bags

Plastic: (18) 15 gal bags

Batteries: (3) large coffee cans

Plastic Shopping Bags: bag stuffed with used bags – 3 bags – recycled at grocery store across the street from SCRO

Toner cartridges: Toner cartridges are shipped back for recycling.

Green Purchasing and Paper Use

Staff is encouraged to print documents on both sides of the paper whenever practical. Whenever possible, staff is encouraged to re-use paper that has one side blank for drafts and interoffice documents.

SCRO re-uses file folders and 3 ring binders, as well as cardboard shipping boxes.

SCRO uses outdated letterhead paper to make recycled paper scratch pads for the office.

The files for the air media and some of the records for the UST program at SCRO have been scanned and are available electronically. When a Freedom of Information Act request is received, the possibility of either emailing the information or sending the information on a CD is explored first. Supplying the information via email or on a CD saves energy costs because the copier is not utilized. This also saves a great deal of staff time and mailing costs.

The UST group at SCRO takes a number of pictures during inspections. In the past, the inspectors printed the photos and attached them to the inspection files. Photos are now scanned and approximately 574 pages of full color photos (approximately 2,296 photos) are stored on the U drive at SCRO. Each photo is referenced with the facility name and the photo is referenced on the inspection document for identification. Photos are printed on an infrequent basis for documents sent to the facility. SCRO will move these photos to Keyfile or Filenet in the future electronically rather than printing all of the photos out. Black, yellow, cyan and magenta toner cartridges must be purchased for the 3800 color printers – they range in price from \$127 to \$160 each. Saving photos electronically saves paper, toner and time.

Energy Use of Equipment & Lighting, Heating and Cooling

10% of SCRO staff are able to use the natural light from windows in their offices rather than using fluorescent lighting. Other staff are using lamps and have replaced incandescent bulbs with the CFL bulbs provided by Central Office.

Staff who are in offices with windows and blinds open the blinds during periods of sunlight so that they can benefit from the natural heating. Blinds are closed during periods of cold weather to keep heat in, and, kept closed during extreme heat as well to avoid over use of air conditioning.

Transportation/Vehicle Use

TRO practices appropriate vehicle use by only using 4 wheel drive vehicles when necessary, and, by using larger vehicles when more than two employees are traveling to the same event. TRO staff carpool with other regional offices – especially WCRO and SWRO – whenever possible.

Two staff members regularly ride bicycles to work when weather conditions allow.

Northern Virginia Regional Office – Woodbridge

Electronic response to FOIA requests: If the information is available electronically, NRO emails files to requestors.

NRO continues to collect and recycle paper (6857 lbs), plastic, glass, cans (473 lbs).

NRO prints doubled sided and use recycled paper for notes.

NRO reuses file folders, notebooks, and cardboard shipping containers.

NRO also recycle binders received from submittals, and make them available free, to consultants when they visit the office and return them to consultants who routinely provide submittals in binders.

Removal of one ballast within light fixtures - *NRO has disabled approximately one out of three light fixtures*

Temperature/thermostat control – balancing HVAC system throughout building to be more efficient.

NRO has implemented an office shut down procedure where thermostats are manually put to “unoccupied” settings (82F in the summer) and appliances that can be are shut down.

NRO encourages individuals to use fluorescent versus incandescent bulbs in the office lamps.

Preliminary figures suggest these steps have reduced electricity consumption between 10% and 25%.”

NRO encourages employees to carpool to and from work and to other offices and meeting.

Weather permitting, some staff are able to bike to work

Office has been equipped with low flow toilets

This past fiscal year the landlord replaced all of the carpet with Shaw eco*worx carpet squares. These carpet squares contain 40% recycled content and have low VOC emissions.

EMS Staff are performing a GHG Inventory to identify and calculate the office’s (including FSO) greenhouse gas emissions from energy use, vehicle use, commuting, and waste consumption. After calculating total emissions, the EMS group is working on identifying possible mitigation options to

reduce emissions in a cost effective manner that includes programmable thermostats, more energy efficient lighting, change in vehicle use, carpooling, etc.

Piedmont Regional Office (including Air Monitoring Group)

PRO (and Air Monitoring) recycles corrugated cardboard, white office paper, newspaper, and mixed paper through Weyerhaeuser Company.

PRO recycles aluminum cans.

Several PRO employees collect #1 and #2 plastics; non-aluminum cans; and miscellaneous paper from the office and add it to their home curbside pick up or drop off at local recycling facilities.

Several PRO employees collect waste coffee grounds, coffee filters and biodegradable food waste from the office and compost these waste products at their homes for use as a soil additive, diverting this material from sanitary landfill disposal.

Toner cartridges and lead acid batteries are recycled through the distributors.

PRO resumed the multimedia inspection program, in which about 30 inspections (normally taking two inspectors) were done by one inspector... ergo, 30 fewer trips in the fourth quarter of FY 08.

TRO's vehicle policy directs the staff to reserve vehicles with better gas mileage first.

Valley Regional Office – Harrisonburg

VRO recycles white paper, fine stock, catalogs/magazines, newspaper, cardboard, glass, #1 plastic, #2 plastic, steel cans, and aluminum. It is estimated that just over 4,000 pounds of paper materials, and over 500 pounds of the glass, plastics, tin and aluminum were recycled.

VRO maximized the use of 2-sided copying/printing and used the backs of used paper for draft reports.

VRO has migrated toward more scanning/e-mailing and electronic faxing which reduces the use of paper.

Southwest Regional Office – Abingdon

Recycles cardboard, paper, newspaper, plastic bottles, aluminum, metal, and printer cartridges.

Food Waste is used as composting through a worm farm.

Printing is doubled sided.

SWRO uses Alto Florescent Bulbs which are less toxic and more energy efficient.

SWRO reuses file folders, notebooks, Type envelopes, cardboard shipping containers.

Out of date printed letterhead is used for the fax machines.

The backside of printed paper is used in the fax machines and printers.

The Landlord has replaced some lighting with compact fluorescent bulbs.

SWRO purchases pen refills to cut down on plastic consumption of new pen housing whenever possible.

SWRO carpools with other regions when traveling to meetings to reduce fuel consumption and emissions.

CFL bulbs are provided to employees that use desk lamps.

SWRO has 2 employee's who carpool on Monday's, and 2 employee's who carpool Monday through Friday, which cuts down on fuel consumption and emissions.

West Central Regional Office – Roanoke

WCRO recycles white and mixed paper, plastic drink bottle rings, plastic bags, aluminum cans, glass, batteries (alkaline and rechargeable), cardboard, toners, food containers approximately 3 tons/year. In 2008 the Cycle Systems picked up 2 tons of paper to recycle

The staff reuses file folders, notebooks, cardboard shipping containers, envelopes and refillable pens to cut down on plastic consumption of new pen housing. WCRO uses out-of-date printed letterhead for use in their fax machines by using the back side to print out faxes and emails.

The staff carpools with other regions to travel to meetings to reduce fuel consumption. Divisions are consolidating field inspections and doing multiple inspections per trip to reduce fuel consumption.

Several staff are commuting to work by bicycle when possible.

WCRO minimizes water use by using water sparingly instead of letting water run continuously when washing hands and dishes.

A total of 61 light bulbs in the building have been replaced with CFL bulbs. The landlord has been replacing T12 lights with T8 as needed.

WCRO has been sending out correspondence and copies electronically. As more of WCRO's files are being scanned, documents requested via FOIA are being sent electronically instead of being copied and mailed. Assignments and responses to FOIA's are being made via email to reduce the number of copies to the different media areas. Consultants, permittees, etc., have been submitting documents to us via electronic formats. Staff are encouraged to review documents electronically and print documents double-sided to reduce paper consumption and toner usage.

Respectfully submitted,

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